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10/065,219	09/26/2002	Jose I. Arno	ATMI-506	9419
25559	7590	12/12/2003	EXAMINER	
ATMI, INC. 7 COMMERCE DRIVE DANBURY, CT 06810			WONG, EDNA	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/065,219

Applicant(s)

ARNO ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) 1-31 and 63-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-62 and 66-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 01/27/03.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims **1-31 and 63-65**, drawn to an *in-situ* generation system of fluorine radicals and/or fluorine-containing interhalogen compounds for use in cleaning a processing chamber and a system for generating fluorine radicals and/or fluorine-containing interhalogen compounds, classified in class 422, subclass 186.3.
- II. Claims **32-62 and 66-68**, drawn to a method for *in-situ* generation of fluorine radicals and/or fluorine-containing interhalogen compounds for use in cleaning a processing chamber, a method of generating chlorine trifluoride and a method for generating fluorine radicals and/or fluorine-containing interhalogen compounds, classified in class 204, subclass 157.48.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus such as by an electrolytic apparatus.

Because these inventions are distinct for the reasons given above and have

acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Margaret Chappuis on December 4, 2003 a provisional election was made with traverse to prosecute the invention of Group II, claims **32-62 and 66-68**. Affirmation of this election must be made by applicant in replying to this Office action. Claims **1-31 and 63-65** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

- I. Claims **32-60 and 66-68** are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 32

lines 10-11, it appears that the "fluorine radicals and/or fluorine-containing interhalogen compounds" are the same as those recited in claim 32, line 1-2. If they are, then it is suggested that the word -- the -- be inserted after the word "generating".

Claim 39

lines 2-3, it appears that the "fluorine radicals and/or fluorine-containing interhalogen compounds" are the same as those recited in claim 32, line 1-2. If they are, then it is suggested that the word -- the -- be inserted after the word "form".

Claim 47

lines 3-4, it appears that the "fluorine radicals and/or fluorine-containing interhalogen compounds" are the same as those recited in claim 32, line 1-2. If they are, then it is suggested that the word -- the -- be inserted after the word "form".

Claim 59

lines 3-4, it appears that the "fluorine radicals and/or fluorine-containing interhalogen compounds" are the same as those recited in claim 32, line 1-2. If they are, then it is suggested that the word -- the -- be inserted after the word "generated".

Claim 66

lines 6-7, it appears that the "fluorine radicals and/or fluorine-containing interhalogen compounds" are the same as those recited in claim 32, line 1-2. If they are, then it is suggested that the word -- the -- be inserted after the word "of".

II. Claims **32-60** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: supplying the external energy to the fluorine gas and the halogen species to generate the fluorine radicals and/or fluorine-containing interhalogen compounds.

Claim 32, lines 10-11, recites "generating fluorine radicals and/or fluorine-containing interhalogen compounds by supplying external energy using an energy source". The claims does not recite what the external energy is supplied to. Supplying external energy using an energy source alone does not automatically generate fluorine radicals and/or fluorine-containing interhalogen compounds unless it is supplied to something.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

I. Claims **32-35, 38, 41-42, 46-49, 51, 54, 57 and 59-60** are rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2001-189273** ('273).

JP '273 teaches a method for *in-situ* generation of fluorine radicals and/or fluorine-containing interhalogen compounds for use in cleaning a processing chamber, comprising the steps of:

- (a) providing a fluorine source **2** for supplying fluorine gas;
- (b) providing a halogen source **1** for supplying at least one halogen species selected from the group consisting of  $\text{Cl}_2$ ,  $\text{Br}_2$ , and  $\text{I}_2$  (=  $\text{Cl}_2$ );
- (c) flowing the fluorine gas and the halogen species into a processing chamber **5** communicatively connected with the fluorine source and the halogen source (page 3, ¶ [0032] to [0033]; and
- (d) generating fluorine radicals and/or fluorine-containing interhalogen compounds (= ClF) by supplying external energy using an energy source (= heat or luminous energy) [page 6, ¶ [0070] and [0081] (pages 4-5, ¶ [0049]; and Fig. 1).

The fluorine-containing interhalogen compounds have a general formula  $\text{XF}_n$ , and wherein X = Cl, Br, or I, and n = 1, 3, 5 or 7 (= ClF) [page 3, ¶ [0023]].

The energy source supplies photoenergy (page 6, ¶ [0081]; and Fig. 5).

The energy source supplies ultraviolet light (page 6, ¶ [0081]; and Fig. 5).

The energy source supplies thermal energy (page 6, ¶ [0070]; and Fig. 4).

The temperature in the processing chamber is in a range of from about room temperature to about 350°C (= above room temperature because a heating apparatus **12**, such as a heater, is installed in the outside of the reaction chamber **8**) [page 4, ¶ [0039]; and Fig. 1).

The temperature in the processing chamber is in a range of from about room temperature to about 100°C (= above room temperature because a heating apparatus **12**, such as a heater, is installed in the outside of the reaction chamber **8**) [page 4, ¶ [0039]; and Fig. 1).

The processing chamber is equipped with pressure controlling devices (= the reaction chamber **8** interior is attracted by the pump **17** so that it may become negative pressure compared with atmospheric pressure) [page 4, ¶ [0045]; page 5, ¶ [0049] (7); and Fig. 1].

The fluorine gas and the halogen species are mixed before entering the processing chamber (page 4, ¶ [0049] (3)).

The method further comprises the step of flowing the fluorine gas and halogen species into a mixing chamber **5** upstream of said processing chamber to form fluorine radicals and/or fluorine-containing interhalogen compounds (page 4, ¶ [0049] (3); and Fig. 1).

The mixing chamber is equipped with temperature monitoring and controlling devices (= the temperature control of the preliminary reaction room **5** is performed and it is maintain at a predetermined temperature) [page 6, ¶ [0068] to [0073]; and Fig. 4).



The temperature in the mixing chamber is in a range of from about room temperature to about 350°C (= 150° to 350°) [page 6, ¶ [0073]].

The temperature within the mixing chamber is in a range of from about 280°C to about 350°C (= 150° to 350°) [page 6, ¶ [0073]].

The step of flowing the formed fluorine radicals and/or fluorine-containing interhalogen compounds into a holding chamber **6** (= refining machine) positioned between said mixing chamber **5** and said processing chamber **8** before entering into the processing chamber (page 3, ¶ [0032]; and Fig. 1).

The method further comprises the step of flowing an effluent gas stream discharged by said processing chamber into a downstream exhaust/abatement system (= discharged to the equipment exterior) [page 7, ¶ [0087]].

The method further comprises supplying an inert gas from a diluent gas source **4c** to dilute the generated fluorine radicals and/or fluorine-containing interhalogen compounds (Fig. 1).

The inert gas supplied by said diluent gas source comprises at least one gas species selected from the group consisting of Ar, He, and N<sub>2</sub> (= N<sub>2</sub>) [Fig. 1].

**II.** Claim **61** is rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2001-189273** ('273).

JP '273 teaches a method of generating chlorine trifluoride, for cleaning of a processing chamber, said method comprising the steps of:

- (a) providing a fluorine gas source **2**;
- (b) providing a chlorine gas source **1**;
- (c) mixing fluorine and chlorine gases in a mixing chamber **5** communicatively connected with said fluorine gas source and said chlorine gas source;
- (d) supplying photoenergy **22** (Fig. 5) to said mixing chamber from a photoenergy source to generate chlorine trifluoride in such mixing chamber; and
- (e) flowing generated chlorine trifluoride into a processing chamber **8** connected with said mixing chamber (pages 4-5, ¶ [0049]; and Fig. 1).

**III.** Claims **66-68** are rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2001-189273** ('273).

JP '273 teaches method for generating fluorine radicals and/or fluorine-containing interhalogen compounds, comprising the steps of:

- (a) providing a fluorine source **2** and a halogen source **1** for supplying fluorine and at least one halogen species other than fluorine;
- (b) mixing fluorine with said halogen species in an enclosure **5**; and
- (c) supplying photoenergy **22** (Fig. 5) to said enclosure from a photoenergy source to facilitate generation of fluorine radicals and/or fluorine-containing interhalogen compounds.

The fluorine-containing interhalogen compounds have a general formula  $\text{XF}_n$ , and wherein X = Cl, Br, or I, and n = 1, 3, 5, or 7 (= ClF) [page 3, ¶ [0023]].

The photoenergy supplied by said photoenergy source comprises ultraviolet light (page 6, ¶ [0081]; and Fig. 5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claims **36-37, 39-40, 43-45, 50, 52-53, 55 and 58** are rejected under 35

U.S.C. 103(a) as being unpatentable over **JP 2001-189273 ('273)** as applied to claims 32-35, 38, 41-42, 46-49, 51, 54, 57 and 59-60 above.

JP '273 is as applied above and incorporated herein.

JP 273 does not teach wherein the ultraviolet light has a wavelength in the range from about 100 nm to about 400 nm.

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one skilled in the art would have been motivated to have modified the method of JP '273 with wherein the ultraviolet light has a wavelength in the range from about 100 nm to about 400 nm

because the wavelength is a result-effective variable and one skilled in the art has the skill to calculate the wavelength that would determine the success of the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

Furthermore, JP '273 teaches that the ultraviolet rays have a predetermined wavelength which can absorb  $\text{Cl}_2$  and  $\text{F}_2$  (page 6, ¶ [0081]).

As to wherein the energy source is selected from the group consisting of hydrogen lamps, deuterium lamps, xenon discharge lamps, electric arcs, discharge tubes, incandescent devices, flash tubes, and pulsed lasers, the energy source is a result-effective variable and one skilled in the art has the skill to determine the energy source that would have successfully carry out the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

Furthermore, JP '273 teaches that the ultraviolet lamp **22** (Fig. 5) is formed in the position which can irradiate the ultraviolet rays which have the specific wavelength (page 6, ¶ [0079]).

As to wherein the fluorine gas and the halogen species are separately flowed into the processing chamber and mixed therein to form fluorine radicals and/or fluorine-containing interhalogen compounds, the transpositioning of varying steps, or varying the details of a process, as by adding a step or splitting one step into two does not avoid obviousness where the processes are substantially identical or equivalent in terms of

function, manner and result. *General Foods Corp. v. Perk Foods Co.* (DC NIII 1968) (157 USPQ 14); *Malignani v. Germania Electric Lamp Co.*, 169 F. 299, 301 (D.N.J. 1909); *Matrix Contrast Corp. v. George Kellar*, 34 F.2d 510, 512, 2 USPQ 400, 402-403 (E.D.N.Y 1929); *Hammerschlag Mfg. Co. v. Bancroft*, 32 F. 585, 589 (N.D.III.1887); *Procter & Gamble Mfg. Co. v. Refining*, 135 F.2d 900, 909, 57 USPQ 505, 513-514 (4th Cir. 1943); *Matherson-Selig Co. v. Carl Gorr Color Gard, Inc.*, 154 USPQ 265, 276 (N.D.III.1967).

As to wherein the processing chamber is equipped with temperature monitoring and controlling devices, JP '273 teaches that the processing chamber (= reaction chamber 8) is a CVD system of a batch type (page 3, ¶ [0038]). It is well within the skill of the artisan to monitor and control the temperature in a CVD processing chamber.

Furthermore, monitoring and controlling the temperature would keep the gas from liquefying in the piping.

As to wherein temperature within the processing chamber is in a range of from about 280°C to about 350°C, the temperature is a result-effective variable and one skilled in the art has the skill to calculate the temperature that would determine the success of the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

As to wherein the processing chamber is equipped with pressure monitoring devices, JP '273 teaches that the processing chamber (= reaction chamber 8) is a CVD system of a batch type (page 3, ¶ [0038]). It is well within the skill of the artisan to monitor and the pressure in a CVD processing chamber.

As to wherein pressure in the processing chamber is in a range of from about 1 Torr to about 1000 Torr, the pressure is a result-effective variable and one skilled in the art has the skill to calculate the pressure that would determine the success of the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

As to wherein temperature in the mixing chamber is in a range of from about room temperature to about 100°C, the temperature is a result-effective variable and one skilled in the art has the skill to calculate the temperature that would determine the success of the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

Furthermore, monitoring and controlling the temperature would keep the gas from liquefying in the middle of the piping.

Furthermore, JP '273 teaches that the chlorine gas and fluorine gas are mixed at the preliminary reaction room 5, and caused a chemical reaction by predetermined temperature and pressure (page 4, ¶ [0049] (3)).

As to wherein the mixing chamber is equipped with pressure monitoring and controlling devices, it is well within the skill of the artisan to monitor and control the gas pressure in the mixing chamber.

Furthermore, JP '273 teaches that the chlorine gas and fluorine gas are mixed at the preliminary reaction room **5**, and caused a chemical reaction by predetermined temperature and pressure (page 4, ¶ [0049] (3)).

As to wherein pressure in the mixing chamber is in a range of from about 1 Torr to about 1 000 Torr, the pressure is a result-effective variable and one skilled in the art has the skill to calculate the pressure that would determine the success of the desired reaction to occur, absent evidence to the contrary. MPEP § 2141.03 and § 2144.05(b).

As to wherein the method further comprises monitoring and controlling flow rate of the formed fluorine radicals and/or fluorine-containing interhalogen compound into the processing chamber, JP '273 teaches that the cleaning gas from the preliminary reaction room **5** is introduced into the reaction chamber **8** by opening bulb **18** (page 5, ¶ [0049] (5); and Fig. 1). A specific quantity of the cleaning gas is supplied to the reaction chamber (page 5, ¶ [0052]). Thus, it is well within the skill of the artisan to have monitored and controlled the flow rate of the formed fluorine radicals and/or fluorine-containing interhalogen compound into the processing chamber.

As to wherein the diluent gas source is connected with the processing chamber, this appears to be an obvious design modification dependent upon the overall orientation of the apparatus and within the skill of the art, i.e., the direct or indirect flow of gases into the processing chamber.

As to wherein the method further provides at least one bypassing line for flowing the fluorine gas and halogen species, either separately or in mixture, without passing through the processing chamber, this is well within the skill of the artisan to take out samples of the fluorine gas and halogen species, either separately or in mixture, for analysis by a bypassing line.

II. Claim **56** is rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 2001-189273** ('273) as applied to claims 32-35, 38, 41-42, 46-49, 51, 54, 57 and 59-60 above, and further in view of **JP 2001-267241** ('241).

JP '273 is as applied above and incorporated herein.

JP '273 does not teach wherein said holding chamber is equipped with a mass flow controller.

However, JP '241 teaches that chlorine gas, fluorine gas and inert gas are introduced independently into a mixing chamber where the flow rate is mutually



controlled independently (page 3, ¶ [0022]).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one skilled in the art would have been motivated to have modified the method of JP '273 with wherein said holding chamber is equipped with a mass flow controller because the selection of old parts to operate in new environments in order to achieve the same results was held to have been obvious. *In re Ross* 105 USPQ 237.

**III.** Claim **62** is rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 2001-189273 ('273)**.

JP '273 teaches a method for generating chlorine trifluoride, comprising the steps of:

- (a) providing a fluorine gas source **2**;
  - (b) providing a chlorine gas source **1**;
  - (c) flowing fluorine gas and chlorine gas from said gas sources into a chamber **5**;
- and

(d) supplying photoenergy **22** (Fig. 5) to said processing chamber from a photoenergy source to facilitate generation of chlorine trifluoride in such processing chamber (pages 4-5, ¶ [0049]; and Fig. 1).

JP '273 does not teach wherein the fluorine gas and chlorine gas from said gas sources are flowed into a processing chamber.

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one skilled in the art would have been motivated to have modified the method of JP '273 with wherein the fluorine gas and chlorine gas from said gas sources are flowed into a processing chamber because the transpositioning of varying steps, or varying the details of a process, as by adding a step or splitting one step into two does not avoid obviousness where the processes are substantially identical or equivalent in terms of function, manner and result. *General Foods Corp. v. Perk Foods Co.* (DC NIII 1968) (157 USPQ 14); *Malignani v. Germania Electric Lamp Co.*, 169 F. 299, 301 (D.N.J. 1909); *Matrix Contrast Corp. v. George Kellar*, 34 F.2d 510, 512, 2 USPQ 400, 402-403 (E.D.N.Y 1929); *Hammerschlag Mfg. Co. v. Bancroft*, 32 F. 585, 589 (N.D.III.1887); *Procter & Gamble Mfg. Co. v. Refining*, 135 F.2d 900, 909, 57 USPQ 505, 513-514 (4th Cir. 1943); *Matherson-Selig Co. v. Carl Gorr Color Gard, Inc.*, 154 USPQ 265, 276 (N.D.III.1967).

### **Citations**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

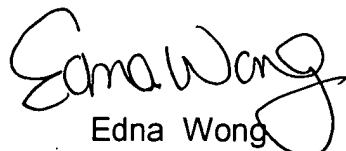
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**Pursley** (US Patent No. 3,876,754) is cited to teach a process for producing chlorine pentafluoride.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (703) 308-3818. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1495.

  
Edna Wong  
Primary Examiner  
Art Unit 1753

EW  
December 9, 2003